



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET—SUITE 500
DENVER, COLORADO 80202-2405

6913 - R8 SDMS

6913

043593

ENVIRONMENTAL PROTECTION AGENCY RESPONSES TO:

"PARK CITY'S REQUESTED CHANGES IN AIR REPORT"
(Received at September 29, 1988 City Council Meeting,
Park City, Utah)

Comment Number

EPA Response

1. Mention of releases at $p > 0.10$ have been deleted from the text. However, those excursions at $p < 10$ are retained to allow consideration of what may constitute an excursion taking into account both Type I and Type II errors. EPA does not believe that the first sentence of Reasoning correctly represents Dr. Burkhart's written comments.
2. No change made. EPA believes that the sentence accurately summarizes Section 4.2.6.
3. See Response 18.
4. Both EPA and Park City data indicate that the "slag" material contains virtually no quantity of metals found in the study except manganese at 1330 mg/kg. This level is not particularly significant since it is only about twice that found in Snyderville soil samples. EPA concludes that this material is not contributing to metals contamination at the site.
5. Change accepted. Inasmuch as "remote" makes it a very unlikely event, "extremely" is unnecessary.
6. No change made. At Park City's insistence at the time of study design, the influence of Richardson Flats was built into the field work and the findings are integral to the report, including site description.
7. No change made. See Response 6
8. Change accepted.
9. No change made. See Response 6.

10. No limits are specified in the reference for TSP or for metals. In addition, the final sentence is clarified and retained as this is why duplicate analysis was limited to these elements. EPA does not believe it is an editorial change inasmuch as EPA has identified metals as CERCLA hazardous substances and has Applicable, or Relevant and Appropriate Requirements (ARARs) for each. The toxicology of metals is well established and is not within the scope or purpose of this report.
11. Parts 1 and 2. Bracketed data indicate that ~~the results~~ are below the contract required detection limit (CRDL) but above the instrument detection limit (IDL). The CRDLs are detection limits set by the EPA to be achievable under most matrix conditions and are used to determine a laboratory's capability of running analyses. Laboratories report actual instrument detection limits quarterly. These IDLs are significantly lower than the CRDLs. Since the analysis is based on linearity (Beer's Law), results below the CRDL are considered reliable results. Quantification becomes suspect when the results are near the instrument detection limit, not the CRDL.
- Part 3. This paragraph states that the ICP method is not as sensitive (higher detection limits) as the AA method. The sixth sentence states that some sample results obtained with the AA will not appear on the ICP results. Therefore, some contaminant concentrations may not have been detected due to the elevated detection limits of the ICP compared to the AA. This partially explains why the fingerprinting in the residential study was not more successful (See Comment and Response 23).
12. No change. See Response 6. EP toxicity analyses were performed by EPA on tailings samples collected during the drilling program.
13. No change. The results provided help quantify the nature and frequency of excursions. These are descriptive data perfectly acceptable in characterizing the results. No conclusions are made on the basis of these data alone; however, they do help the reader understand the daily results unaggregated by grouping of the data.

14. No change. The methodology used (mobility index) is considered by EPA and the Utah Bureau of Solid and Hazardous Waste as conservative in identifying releases.
15. EPA agrees to delete mention of $p < 0.2$ releases in this paragraph.
16. No change. See Response 13.
17. No change. See Responses 13 and 18.
18. EPA believes that this comment confuses the ambient air study with the residential study. Table 18 reports the significant differences among residential sample types and zones in the study area. Comparisons were evaluated among soil, vacuum dust, and indoor and outdoor air at the residence (not at the exposed tailings). While no significant difference was observed for copper in the residential study, no correlations with the ambient air study (release study) may be drawn due to differing sample locations, sample dates, and sample types.
19. See Response 4.
20. EPA agrees to the semantic change suggested. The change is inconsequential.
21. EPA agrees to delete reference to $p < 0.20$.
22. The slag results provided by EPA and by Park City consultants (Dames and Moore) show metals, except manganese, as virtually undetected. The slag results can not account for the spectrum of elevated air, soil, or vacuum dust contaminant concentrations.
23. No change. EPA believes that the language is sufficiently qualified and the detection limits explanation is of sufficient merit to support the statement made.
24. No change. The report is inconclusive as to whether there could ever be a pathway.
25. See Response 18.
26. No change. No mention of $p < 0.20$ releases is made. See Responses 1 and 11.

27. No change. EPA is unclear as to the nature of the comment. A dispersion model was considered and rejected as less accurate than actual monitoring data to determine whether air migration could affect soil concentrations.
28. EPA agrees to this semantic change.

METALS

(Soil/Solid - Total)

Client Name: Dames and Moore
Client ID: PARK CITY SLAG
Lab ID: 000390-0001-SA
Matrix: SOLID
Authorized: 06 JUN 88

Enseco ID: 1003106
Sampled: 31 MAY 88
Prepared: 07 JUN 88

Received: 06 JUN 88
Analyzed: NA

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Analyzed Date
Aluminum	25100	mg/kg	10	Method 6010	13 JUN 88
Arsenic	ND	mg/kg	20	Method 6010	13 JUN 88
Barium	370	mg/kg	1	Method 6010	13 JUN 88
Cadmium	ND	mg/kg	1	Method 6010	13 JUN 88
Chromium	13	mg/kg	2	Method 6010	13 JUN 88
Copper	ND	mg/kg	2	Method 6010	13 JUN 88
Iron	3300	mg/kg	10	Method 6010	13 JUN 88
Lead	ND	mg/kg	10	Method 6010	13 JUN 88
Magnesium	60000	mg/kg	20	Method 6010	13 JUN 88
Manganese	1100	mg/kg	1	Method 6010	13 JUN 88
Selenium	ND	mg/kg	40	Method 6010	13 JUN 88
Silver	ND	mg/kg	1	Method 6010	13 JUN 88
Vanadium	33	mg/kg	2	Method 6010	13 JUN 88
Zinc	3	mg/kg	2	Method 6010	13 JUN 88

ND=Not Detected
NA=Not Applicable

Reported By: Dan Appelhans

Approved By: Toni Stovall

The cover letter is an integral part of this report.

Rev 230787

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Form I

U. S. EPA Contract Laboratory Program
 Sample Management Office
 P. O. Box 818 - Alexandria, VA 22313
 703/557-2490 FTS: 8-557-2490

EPA Sample No.

MHL 473

Date 8-10-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME ANALYTICA INCORPORATEDCASE NO. SAS 3963HSOW NO. 785Lab Receipt Date 7-1-88LAB SAMPLE ID. NO. QC REPORT NO. 10126

Elements Identified and Measured

Concentration: Low X Medium Matrix: Water Soil X Sludge Other

ug/L or (ug/kg dry weight) (Circle One)

1. Aluminum	<u>240</u>	<u>P</u>	13. Magnesium	<u>[844]</u>	<u>E P</u>
2. Antimony	<u>12u</u>	<u>N F</u>	14. Manganese	<u>[11]</u>	<u>P</u>
3. Arsenic	<u>2.1u</u>	<u>F</u>	15. Mercury	<u>NR</u>	<u>CV</u>
4. Barium	<u>9.4u</u>	<u>P</u>	16. Nickel	<u>10u</u>	<u>P</u>
5. Beryllium	<u>1.0u</u>	<u>P</u>	17. Potassium	<u>667u</u>	<u>P</u>
6. Cadmium	<u>3.1u</u>	<u>P</u>	18. Selenium	<u>1.0u</u>	<u>N F</u>
7. Calcium	<u>[2340]</u>	<u>P</u>	19. Silver	<u>10u</u>	<u>N P</u>
8. Chromium	<u>73u</u>	<u>N P</u>	20. Sodium	<u>408000</u>	<u>P</u>
9. Cobalt	<u>7.3u</u>	<u>P</u>	21. Thallium	<u>2.1u</u>	<u>N F</u>
10. Copper	<u>11u</u>	<u>P</u>	22. Vanadium	<u>8.3u</u>	<u>P</u>
11. Iron	<u>[53]</u>	<u>P</u>	23. Zinc	<u>7.3u</u>	<u>P</u>
12. Lead	<u>1.0u</u>	<u>N F</u>	Percent Solids (Z)	<u>96</u>	

Cyanide

NR

Footnotes:

For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: SAMPLE DESCRIPTION: ^{mol} SOTC: WHITE, MEDIUM TEXTURE AGGREGATE SALT

ICP DETECTION LIMITS RAISED 5X BY DILUTION REQUIRED TO MEET Na LINEAR RANGE

Lab Manager

Michael P. Chaney
 IFB Amend One

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Form I

U. S. EPA Contract Laboratory Program
 Sample Management Office
 P. O. Box 818 - Alexandria, VA 22313
 703/557-2490 FTS: 8-557-2490

EPA Sample No.

MHL 486

Date 8-10-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME ANALYTICA INCORPORATEDCASE NO. SAS 3963HSOW NO. 785Lab Receipt Date 7-1-88LAB SAMPLE ID. NO. QC REPORT NO. 10126

Elements Identified and Measured

Concentration: Low X Medium Matrix: Water Soil X Sludge Other ug/L or ug/kg dry weight (Circle One)

1. Aluminum	<u>35900</u>	<u>P</u>	13. Magnesium	<u>72500</u>	<u>EP</u>
2. Antimony	<u>12u</u>	<u>NF</u>	14. Manganese	<u>1330</u>	<u>P</u>
3. Arsenic	<u>2.1u</u>	<u>P</u>	15. Mercury	<u>NR</u>	<u>CV</u>
4. Barium	<u>542</u>	<u>P</u>	16. Nickel	<u>4.2u</u>	<u>P</u>
5. Beryllium	<u>6.2</u>	<u>P</u>	17. Potassium	<u>6880</u>	<u>P</u>
6. Cadmium	<u>1.2u</u>	<u>P</u>	18. Selenium	<u>10u</u>	<u>1000 mc NF</u>
7. Calcium	<u>176000</u>	<u>P</u>	19. Silver	<u>4.2u</u>	<u>NP</u>
8. Chromium	<u>13</u>	<u>NP</u>	20. Sodium	<u>49200</u>	<u>P</u>
9. Cobalt	<u>2.9u</u>	<u>P</u>	21. Thallium	<u>2.1u</u>	<u>NF</u>
10. Copper	<u>[5.0]</u>	<u>P</u>	22. Vanadium	<u>45</u>	<u>P</u>
11. Iron	<u>7040</u>	<u>P</u>	23. Zinc	<u>[4.6]</u>	<u>P</u>
12. Lead	<u>1.0u</u>	<u>NF</u>	Percent Solids (%)	<u>96</u>	

Cyanide

NR

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Comments: SAMPLE DESCRIPTION: ^{MC}SOIL. GRAY AND BROWN, MEDIUM TEXTURE, AGGREGATE SLAGICP DETECTION LIMITS RAISED 2X BY DILUTION REQUIRED TO MEET CA LINEAR RANGESE DETECTION LIMIT RAISED 10X BY DILUTION REQUIRED DUE TO ANALYTICALSPIKE RECOVERY

Lab Manager

Michael P. Charny

IFB Amend One